

REMARKS

The Office Action of November 17, 2003 has been carefully reviewed and this response addresses the concerns set forth in the Office Action. Claims 1-12 were pending in the application. Claims 10-12 were withdrawn from consideration.

As a first matter, the drawings were objected to as being unclear with regard to the relative upstream and downstream locations in the apparatus. Further, the specification was objected to as lacking "a reference to and brief description of the drawings". Both the drawings and the specification have been herein amended. Replacement drawing sheets containing directional arrows to indicate the fluid flow direction through the present invention are contained in Attachment 1 hereto. No new matter has been added as all such details of the drawings were described within the specification.

Claims 7 and 9 were objected to due to certain informalities and have been amended herein to correct such informalities.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention. The amended claims are believed to address these concerns.

Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(b) as anticipated by Rouzier (US Patent # 3,595,846). This rejection is respectfully traversed.

Rouzier relates to an apparatus for allowing separate and discontinuous quantities of the reacting materials to be acted upon while maintaining a continuous circulation of such separate and discrete quantities through the reactor through the use of moveable separators, preferably of a spherical shape. There are no "pigs" disclosed, as nothing in Rouzier suggests or discloses that

the moveable separators would be suitable for removing deposits from the inner wall of tubular reactors. Moreover, no circulation pump is disclosed in Rouzier. Further, the bore 47 in Figure 1 of Rouzier is not a by-pass tube for bypassing a cleaning pig around a circulation pump, nor would one skilled in the art be motivated to include any such by-pass tube into a reactor as described by Rouzier as such a reactor does not include a circulation pump in the reactor path.

Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(b) as anticipated by Chaumont et al (US Patent # 5,242,827). This rejection is respectfully traversed.

Chaumont relates to an apparatus for the cleaning of the pipe of a solar receptor of a photobioreactor, NOT an emulsion polymerization reactor. As such, Chaumont does not comprise at least one monomer feed or at least one feed for water phase. Further, Chaumont does not contain an outlet for the discharge of a polymer emulsion.


Also in the Office Action, claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaumont et al. in view of Wennerberg et al (US Patent # 3,425,083). More specifically, the Office Action asserts that it would be obvious to combine slots 5 and 12 of Wennerberg with the Chaumont reactor. This rejection is also respectfully traversed.

In Wennerberg, slots 5 and 12 serve to discharge a portion of the liquid. However, in Chaumont, ALL of the liquid, not merely a portion, is lead away from the path of the ball (e.g, at the point of the rod system 44 in Figure 3; line 26 is a dead end line for the liquid since it cannot pass valve 38). Moreover, in Wennerberg, a portion of the liquid is drained off from the main circulation while the ball remains circulating. In Chaumont, the opposite occurs – the ball is taken out of the main circulation path and temporarily “parked” in a dead-end branch. A slot in Chaumont would only hinder the circulation and would not improve splitting the ball’s path from the liquid circulation. Thus, there is no teaching,

suggestion, or disclosure for one skilled in the art to use slots 5 and 12 of Wennerberg with the reactor of Chaumont.

For the reasons set forth above, the present invention is both novel and non-obvious over the cited references. The Applicant respectfully requests that the Examiner find the present application in condition for immediate allowance.

Respectfully submitted,
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